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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

WARTALOWICZ, PAUL A

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/673,411	Applicant(s) SUZUKI ET AL.	
	Examiner Paul A. Wartalowicz	Art Unit 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 1, 3, and 7 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6637465 in view of Lee et al. ('854).

Claims 1 and 2 of U.S. Patent No. 6637465 disclose a fuel hose comprising an innermost layer comprising a thermoplastic polyester elastomer, an intermediate layer comprising a polyester resin and provided around the innermost layer; and an outermost layer comprising a thermoplastic polybutylene terephthalate elastomer and provided around the intermediate layer (Claim 1). U.S. Patent No. 6637465 fails to teach particles each having a core-shell structure, the particles being present in a proportion of 5 to 60 parts by weight based on 100 parts by weight of the polyester resin.

Lee et al., however, teaches a polyamide resin composition comprising polybutylene terephthalate (col. 4, line 24) further comprising core-shell rubber system (col. 2, lines 15-18) comprising 0.5-10 weight% of mixture for the purpose of yielding gasoline resistance (col. 1, line 66) and flexibility under cold environment (col. 2, lines 18-20).

Lee et al. further teaches that core-shell resin composition has excellent gasoline resistance and impact resistance under cold environment which is applicable to a fuel tube system for a motor vehicle (col. 1, lines 9-12).

Therefore, one of ordinary skill in the art would have recognized that a resin composition is advantageous for use in a fuel tube system for the purpose of providing gasoline resistance (col. 1, line 66) and flexibility under cold environment (col. 2, lines 18-20).

Thus, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a core-shell resin composition comprising polybutylene terephthalate of Lee et al. as the material of the inner layer of U.S. Patent No. 6637465 in order to provide gasoline resistance and flexibility under cold environment as taught by Lee et al.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "outermost layer"

and "constituent layers" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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3. Claims 1 and 3-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, 3, and 8, the recitation "constituent layers" render the claims indefinite. It is unclear what the constituent layers are. The term "constituent layers" is not mentioned in the specifications. Do the intermediate, inner, and outer layers in the category of "constituent layers"?

In claim 3, the recitation "wherein the constituent layers other than the layer comprising the polyester resin" renders the claim indefinite. It is unclear which "layer" the claim is referring to in line 4. Is the claim referring to the inner layer?

In claims 4, 5, 7, and 9; the recitation "outermost" render the claims indefinite. The term "outermost layer" is not defined in the specifications therefore it is unclear what the "outermost layer" is.

In claims 5, 6, 8, and 9; the recitation "one second polyester" render the claims indefinite. A first polyester is never mentioned in the claims. It is unclear what is meant by "one second polyester".

In claim 8, the recitation "constituent layers in contact with inner and outer surfaces of the intermediate layer" in lines 2 and 3 render the claim indefinite. Are the constituent layers in contact with the inner and outer surfaces of the intermediate layer simultaneously?

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claim 1, 2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. ('871) in view of Lee et al. ('854).

Smith et al. teaches a fuel hose (col. 3, lines 20-23) comprising at least one constituent layer including an inner layer, at least the inner layer comprising a polyester resin (col. 3, lines 60-63). Smith et al. fails to teach particles each having a core-shell structure, the particles being present in a proportion of 5 to 60 parts by weight based on 100 parts by weight of the polyester resin.

Lee et al., however, teaches a polyamide resin composition comprising polybutylene terephthalate (col. 4, line 24) further comprising core-shell rubber system (col. 2, lines 15-18) comprising 0.5-10 weight% of mixture for the purpose of yielding gasoline resistance (col. 1, line 66) and flexibility under cold environment (col. 2, lines 18-20).

Lee et al. further teaches that core-shell resin composition has excellent gasoline resistance and impact resistance under cold environment which is applicable to a fuel tube system for a motor vehicle (col. 1, lines 9-12).

Therefore, one of ordinary skill in the art would have recognized that the core-shell resin composition is advantageous for use in a fuel tube system for the purpose of providing gasoline resistance (col. 1, line 66) and flexibility under cold environment (col. 2, lines 18-20).

Thus, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a core-shell resin composition comprising polybutylene terephthalate of Lee et al. as the material of the inner layer of Smith et al. in order to provide gasoline resistance and flexibility under cold environment as taught by Lee et al.

As to claim 2, Smith et al. teaches that the inner layer is made conductive by the addition of a conductive agent (col. 3, lines 63-65). As to claim 4, Smith et al. teaches an outermost layer comprising polyamide (col. 3, lines 52-54).

5. Claim 3 and 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. ('871) in view of Lee et al. ('854) in further view of Kawazura et al ('008) and Iio et al. ('313).

Smith et al. and Lee et al. teach a fuel hose as described above.

Smith et al. teaches a fuel hose having a tie layer between an inner and outer layer comprising linear low-density polyethylene (col. 4, lines 15-17, 23-26). Smith et al.

and Lee et al. fail to teach constituent layers other than the layer comprising the polyester resin and the particles each comprise a polyester material.

Kawazura et al. teaches that it is well known in the resin hose art for a resin hose to composed of a polyester thermoplastic elastomer including polybutylene terephthalate as a hard segment and polytetramethylene glycol as a soft segment for the purpose of improving the flexibility of a thermoplastic resin (col. 2, lines 24-31).

Since Smith et al. requires that the tube is flexible enough to be shaped in any configuration (col. 3, lines 39-40), one of ordinary skill in the art would have recognized to replace the polyethylene of the tie layer of Smith et al. and Lee et al. with polyester thermoplastic elastomer of Kawazura et al. to improve the flexibility of a thermoplastic resin as taught by Kawazura et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided polyester in the tie layer of Smith et al. in order to improve the flexibility of a thermoplastic resin as taught by Kawazura et al.

As to claim 5, Smith et al., Lee et al., and Kawazura et al. fail to teach that the intermediate layer has an outer peripheral surface subjected to an electric discharge treatment, wherein a constituent layer provided on the outer peripheral surface of the intermediate layer essentially comprises an amine-rich resin.

Iio et al. teaches a hose wherein the intermediate layer (a first layer, col. 1, line 48) having a surface subjected to an electric discharge treatment such as a plasma treatment; and a second layer comprising an amine-rich resin as an essential

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component for the purpose of bonding to the surface of the first layer (col. 1, lines 50-54).

Smith et al. discloses a tie layer that comprises polyethylene (intermediate layer, col. 4, lines 15-20) that is a commonly recognized tie layer to adhere to polybutylene terephthalate or polybutylene naphthalate. Iio et al. discloses an amine-rich thermoresin such as polyolefins on the outer surface of the inner layer that is subjected to an electrical discharge treatment such as a plasma treatment (col. 3, lines 8-11).

Therefore, one of ordinary skill in the art would have recognized to have used the amine-rich polyolefin resin and electrical discharge treatment of Iio et al. in place of the polyolefin tie layer of Smith et al. and Lee et al. in order to bond a second layer to the surface of a first layer as taught by Iio et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A. Wartalowicz whose telephone number is (571) 272-5957. The examiner can normally be reached on 8:30-5 M-F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul Wartalowicz
August 15, 2005



HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

8/19/05